



PATENT APPLICATION

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10/2/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re the Application of

Takao ABE et al.

OCT 31 2002

Group Art Unit: 1765

Application No.: 09/743,982

TC 1700

Examiner: M. Anderson

Filed: January 18, 2001

Docket No.: 108360

For: SILICON SINGLE CRYSTAL AND WAFER DOPED WITH GALLIUM AND
METHOD FOR PRODUCING THEM

AMENDMENT UNDER 37 C.F.R. §1.111

Director of the U.S. Patent and Trademark Office
Washington, D.C. 20231

Sir:

In reply to the July 31, 2002 Office Action, please amend the above-identified
application as follows:

IN THE CLAIMS:

Please cancel claims 23, 25 and 26 without prejudice to or disclaimer of the subject
matter contained therein.

Please replace claims 20, 21 and 33-37 as follows:

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20. (Amended) A silicon single crystal produced according to Czochralski
method to which Ga (gallium) is added as a dopant wherein a resistivity is $5 \Omega \cdot \text{cm}$ to 0.1
 $\Omega \cdot \text{cm}$ wherein a diameter of the single crystal is 4 inches or more, and the single crystal is
used for a solar cell.

21. (Amended) A silicon single crystal produced according to Czochralski
method to which Ga is added as a dopant wherein concentration of Ga in the crystal is
 $5 \times 10^{17} \text{ atoms/cm}^3$ to $3 \times 10^{15} \text{ atoms/cm}^3$ wherein a diameter of the single crystal is 4 inches
or more, and the silicon single crystal is used for a solar cell.